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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/484,484 01/18/00 KOSTER

H 24743-2301B

EXAMINER

HM22/0828

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ART UNIT

PAPER NUMBER

1623

DATE MAILED:

08/28/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/484,484

Applicant(s)
Koster et al.

Examiner
James O. Wilson

Group Art Unit
1623



☒ Responsive to communication(s) filed on Jun 15, 2001

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire THREE month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 6, 7, 9-11, 14-17, 20-22, 25, 26, 29, 31, 32, 39, 40, 45, and 47-49 are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 6, 7, 9-11, 14-17, 20-22, 25, 26, 29, 31, 32, 39, 40, 45, and 47-49 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10, 11, 14-17, 20-21 29, 49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 10, 11, 14-17, 20-21 are all drawn to compounds of formula II, (a) or (b). Claim 6 is limited to compositions of matter of formula I. Claims 10, 11, 14-17, 20-21 lack antecedent basis and are rejected as being based on a claim for which there is no basis for the subject matter applicants intend to claim in dependent claims. In claims 29 and 49, the examiner notes that there does not appear to be support for the attachment or combination of the LPC claimed with a photocleavable moiety or a biopolymer.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 7, 9, 22, 25, 26, 31, 32, 39, 40, 45 and 47-49 are rejected under 35

U.S.C. 103(a) as being unpatentable over the Koster patent 5,198,540.

Claims 6, 7, 9, 22, 25, 26, 31, 32, 45 and 49 are all drawn to liquid phase carriers (LPC) as indicated in formula I. Claims 39, 40, 47 and 48 are drawn to a method for solution phase biopolymer synthesis using a compound which is a LPC.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

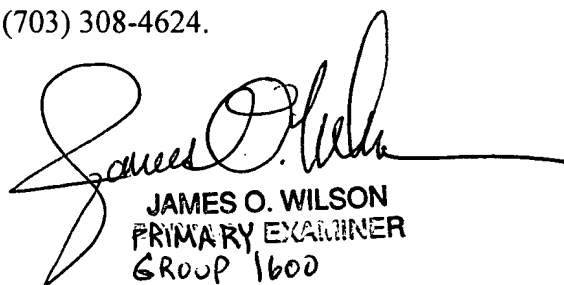
Koster discloses compositions of matter which are liquid phase carriers, see column 1, line 29 through column 3, line 51. Note the correlative structure of the LPC of the Koster patent as compared with the instantly claimed formula I. The degree of variability instantly claimed is not set forth in the Koster patent, however, the species of LPC's disclosed therein are seen to render the instantly claimed carriers prima facie obvious, see carriers of claim 1. The use of these LPC

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compounds to synthesize the biopolymers which are oligonucleotides is seen to render the instant process claims prima facie obvious, see Table 1 in columns 9 and 10. The attachment of photocleavable groups and biopolymers is well within the purview of the skilled artisan in this field.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to prepare LPC's because the prior art discloses how to make and use this class of compounds to synthesize biopolymers and to integrate photocleavable linkers into the process, said linkers being well recognized in oligonucleotide synthesis as applicant's have done with the above cited reference before them. The motivation to use this class of compounds is set forth in the prior art wherein these LPC's includes the preference to separate off the desired condensation product from the starting substances and by-products, wherein the LPC is recognized as a purification handle.

Any inquiry concerning this communication should be directed to James O. Wilson,
Primary Examiner in Art Unit 1623 at telephone number (703) 308-4624.



JAMES O. WILSON
PRIMARY EXAMINER
GROUP 1600